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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,166	03/06/2008	Chun-Byung Yang	W014 P01394-US	1914
3017	7590	10/15/2008		
BARLOW, JOSEPHS & HOLMES, LTD. 101 DYER STREET 5TH FLOOR PROVIDENCE, RI 02903			EXAMINER CHOI, LING SIU	
			ART UNIT	PAPER NUMBER
			1796	
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			10/15/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/598,166	<b>Applicant(s)</b> YANG ET AL.	
	<b>Examiner</b> Ling-Siu Choi	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/14/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office Action is in response to the Preliminary Amendment filed 08/20/2006. Claim 6 has been added and claims 1-6 are now pending, which are drawn to a preparation method for a solid titanium catalyst for olefin polymerization.

#### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,151,071 B2.

Although the conflicting claims are not identical, they are not patentably distinct from

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each other because the scope of instant claim 1 is overlapped with the scope of claim 1 of U.S. Patent No. 7,151,071 B2.

### ***Claim Objections***

4. Claims 1-6 are objected to because of the following informalities: (A) claim 1, line 6, "in which R is an a (4-a) alkyl group" is suggested to be changed to --in which R is an alkyl group--; (B) claim 1, line 7, "solutionat" is suggested to be changed to --solution at--; and (C) claims 2-6, line 2, "characterized in that" is suggested to be changed to --wherein--.

Appropriate correction is required.

### ***Claim Analysis***

5. Summary of Claim 1:

A preparation method for a solid titanium catalyst for olefin polymerization, which comprises the steps of:	
1	preparing a magnesium compound solution by dissolving a magnesium halide compound into a mixed solvent of a cyclic ether and one or more of alcohol;
2	preparing a carrier by adding firstly a titanium halide compound having a general formula of $\text{Ti}(\text{OR})_a\text{X}_{(4-a)}$ , in which R is an alkyl group having 1-10 carbon atoms, X is a halogen atom and a is an integer of 0-3, to the magnesium compound solution at

	-10-30°C, elevating the temperature of the resulted solution or aging it, and then thereto adding secondly the titanium halide compound additionally;
3	preparing a titanium catalyst by reacting the carrier with a titanium compound and an electron donor; and
4	washing the titanium catalyst with hydrocarbon solvent at 40-200°C

***Claim Rejections -35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al. (US 6,034,025).

Yang et al. disclose a method to prepare a solid titanium catalyst for olefin, comprising (A) producing a magnesium compound solution by dissolving a magnesium halide compound in a mixture of a cyclic ether and at least two different alcohols to form an intermediate solution and adding an organosilane compound to the intermediate solution to form the magnesium compound solution; (B) precipitating solid components by reacting the magnesium compound solution with a titanium halide compound; and (C) reacting the precipitated solid components with a titanium compound and an electron donor, wherein

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the molar ratio of the cyclic ether and the alcohol is between 1:0.05 to 1:0.95; the cyclic ether includes 2-methyl tetrahydrofuran (col. 3, lines 57 and 62-63; claim 1). Attention is drawn to Example 1, wherein the solid titanium complex catalyst is obtained by the steps comprising step (A) Production of the Magnesium Compound Solution – adding 30 ml of tetrahydrofuran, 28 ml of butanol and 0.4 ml of methanol to a mixture of 15 g of  $\text{MgCl}_2$  and 450 ml of toluene to form a homogeneous magnesium solution; (B) Production of the Solid Components - adding 20 ml of  $\text{TiCl}_4$  to the magnesium solution to form a solid components; (C) Production of the Catalyst - adding 100 ml of toluene and 100 ml of  $\text{TiCl}_4$  to the previously produced solid components at 15-35°C, followed by adding 100 ml of toluene, 100 ml of  $\text{TiCl}_4$ , and 2.9 ml of diisobutyl phthalate to form a catalyst at 70°C; washing the catalyst five times with refined hexane; and then drying the catalyst. Since the catalyst is formed at 70°C, the washing temperature is usually around the reaction temperature in order to effectively remove the unreacted components. Thus, the present claims are anticipated by the disclosure of Yang et al.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098. The examiner can normally be reached on Monday to Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/Ling-Siu Choi/

Primary Examiner, Art Unit 1796

October 11, 2008